

REMARKS

This Paper is submitted in response to the final Office Action mailed on June 7, 2006 having a shortened statutory response period that ends on September 7, 2006. This Paper is submitted within two months of the Office Action mail date, namely August 7, 2006. The Commissioner is hereby authorized to charge any additional fees to Deposit Account number 02-1818.

Claims 1-11 and 59-63 are pending in this application. Claims 12-58 have been canceled. The indication of allowable subject matter in claims 62-63 is noted with appreciation. Claim 59 has been amended and claims 62-63 have been rewritten in independent form. Applicants respectfully request that this Paper be entered as it 1) places the claims in a condition for allowance, and 2) requires only a cursory review by the Examiner.

Claims 1, 4, 5, 8, and 9 were rejected under 35 U.S.C. § 103(a) for allegedly being obvious over U.S. Patent No. 5,944,684 to Roberts et al. (*Roberts*), in view of U.S. Patent No. 4,610,794 to Henne et al. (*Henne*). Claims 2 and 3 were rejected under 35 U.S.C. § 103(a) for allegedly being obvious over U.S. Patent No. 3,669,880 to Marantz (*Marantz*) in view of *Henne*. Claim 6 was rejected under 35 U.S.C. §103(a) for allegedly being obvious over *Roberts* in view of *Henne*, and in further view of U.S. Patent No. 6,627,164 to Wong (*Wong*). Claim 7 was rejected under 35 U.S.C. § 103(a) for allegedly being obvious over *Roberts* in view of *Henne* and in further view of U.S. Patent No. 4,659,744 to Matsui (*Matsui*). Claim 10 was rejected under 35 U.S.C. §103(a) for allegedly being obvious over *Marantz* in view of *Henne*. Claim 11 was rejected under 35 U.S.C. §103(a) for allegedly being obvious over *Roberts* in view of *Henne* and in further view of U.S. Patent No. 5,618,441 to Rosa et al (*Rosa*). Claim 59 was rejected under 35 U.S.C. §103(a) for allegedly being obvious over *Roberts* in view of U.S. Patent No. 5,618,710 to Navia (*Navia*). Claim 60 was rejected under 35 U.S.C. §103(a) for allegedly being obvious over *Roberts* in view of *Navia*, in view of *Henne*. Claim 61 was rejected under 35 U.S.C. §103(a) for allegedly being obvious over *Roberts* in view of *Navia* and in further view of U.S. Patent No. 4,386,611 to Kantorski et al. (*Kantorski*). Applicants respectfully traverse and disagree with these alleged rejections for the reasons set forth below.

No combination of *Roberts*, *Henne*, *Marantz*, *Wong*, *Matsui*, *Rosa*, *Navia* and/or *Kantorski* discloses or suggests a dialysis device having a layer configuration whereby fluid

entering the device contacts a zirconium phosphate (ZP) layer before contacting either a urease layer or a zirconium oxide (ZO) layer as recited in independent claims 1 and 59. *Roberts* and *Marantz* each individually teach away from a dialysis device wherein incoming fluid first contacts a ZP layer. *Roberts* discloses a dialysis purification system having layers in the following order (from inlet to outlet): “a layer of urease followed by layers of zirconium phosphate, hydrated zirconium oxide, and activated carbon.” *Roberts*, col. 8 lines 30-35, *see also* col. 6 lines 14-24. *Roberts* thereby discloses that incoming fluid first contacts a urease layer—not a ZP layer—thereby teaching away from independent claim 1. Teaching away is a *per se* demonstration of non-obviousness. *In re Dow Chemical Co.*, 837 F.2d 469 (Fed. Cir. 1988). Consequently, any combination with *Roberts* is likewise non-obvious.

Marantz discloses a dialysate system wherein incoming fluid first contacts a urease layer followed by contact with a ZP layer. *Marantz*, col. 2 lines 14-29, FIG. 2. The *Marantz* system is constructed so that fluid entering the system contacts the urease layer first and the ZP layer second. *Marantz* therefore teaches away from the subject matter of claim 1. Consequently, any combination with *Marantz* is non-obvious as teaching away is a *per se* demonstration of obviousness as discussed above.

Henne fails to fulfill the deficiencies of *Roberts*. *Roberts* teaches away from independent claim 1 as set forth above. As *Roberts*' disclosure is an indication of *per se* non-obviousness, the combination of *Roberts* and *Henne* is likewise *per se* non-obvious. *In re Dow Chemical Co.*, 837 F.2d 469 (Fed. Cir. 1988).

Even assuming *arguendo* that *Henne* is arguably combinable with *Roberts* (which it is not), no motivation would exist to combine *Henne* with *Roberts* as such a combination would run contrary to the intended purpose of *Roberts*. *Henne* discloses a cuprammonium cellulose dialysis membrane that may include additional adsorbent layers such as carbon, ZO, and ZP. *Henne*, col. 12 lines 43-55. *Henne*, however, has no disclosure whatsoever regarding a urease layer. Accordingly, *Henne* discloses nothing about the spatial relationship between this “ghost” or absent urease layer with respect to the other absorbent layers.

Roberts, on the other hand, is explicit that the urease layer must be located upstream of the ZP layer as the urease layer converts urea to ammonium carbonate thereby enabling the ZP layer to absorb the ammonia. *Roberts*, col. 6 lines 14-24. The assertion that *Henne* teaches the rearrangement of *Roberts*' layers in any manner (*i.e.*, the ZP layer being first) runs contrary to

the intended purpose of *Roberts*—namely, *Roberts*' requirement of urea conversion to ammonium carbonate (vis-à-vis the urease layer) in order to enable subsequent absorption of the ammonia by the ZP layer. Thus, even if *Roberts* and *Henne* were combinable, no motivation would exist to combine these references as such a combination would run contrary to the intended purpose of *Roberts*.

Any combination of *Wong*, *Matsui*, *Rosa*, *Navia*, and/or *Kantorski* with *Roberts* and/or *Marantz* is non-obvious as *Roberts* and *Marantz* each individually teach away from independent claims 1-59. Even if *Wong*, *Matsui*, *Rosa*, *Navia*, and/or *Kantorski* were combinable with *Roberts* and/or *Marantz*, these references would fail to fulfill the deficiencies of *Roberts* or *Marantz* as *Wong*, *Matsui*, *Rosa*, *Navia*, and *Kantorski* have no disclosure whatsoever related to a multiple layer dialysis device, let alone a dialysis device having a layer configuration as recited in independent claims 1 and 59.

For the foregoing reasons, Applicants respectfully submit that the present application is in condition for allowance and earnestly solicit reconsideration of same.

Respectfully submitted,

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